Wire Wound SMD Shielding Power Inductor

贴片式功率电感 - APDS Series

FEATURES 特征

- Monolithic strucure for high reliability.
  选层独石结构 、高度可靠性
- Excellent solderability and high heat resistance.
  良好的可焊性和耐焊性
- No cross coupling due to magnetic shield.
  良好的磁屏蔽
- Operating Temp：-40℃~+125℃(Including self heating)
  工作温度范围:-40~+125°℃(包括自身温度上升)

APPLICATIONS 用途

- handheld devices and other portable products...
  应用于手持设备及其他便携式产品等领域

PART NUMBERING 产品型号

APDS	1608	C	-	103	M	L	C
①	②	③		④	⑤	⑥	⑦

① Series Name	
APDS	Wire Wound SMD Shielding Power Inductor

② External Dimensions	
1608	6.6x4.45x2.92mm

③ Characteristic type
C

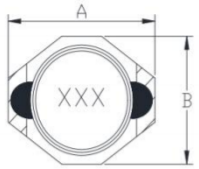
④ Inductance	
Code (example)	Nominal inductance［μH］
103	10 μH
104	100 μH

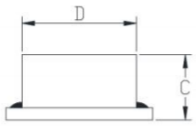
⑤ Inductance tolerance	
Code (example)	Inductance tolerance
M	±20%

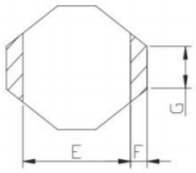
⑥ Termination code	
L	RoHS compliant

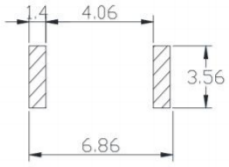
⑦ Packaging	
C	Tape & Reel

DIMENSIONS & RECOMMENDED LAND PATTERN 尺寸及推荐焊盘









RECOMMENDED LAND PATTERN

Unit: mm

Dimensions							
Series	A Max.	B Max.	C Max.	D Typ.	E Typ.	F Typ.	G Typ.
APDS1608C	6.60	4.45	2.92	3.9	4.32	1.02	1.27

ELECTRICAL CHARACTERISTICS 特性规格表

Part Number	Inductance @100KHz/0.1V (μH ±20%)	DC resistance (Ω)		Temperature Rise Current (A)	Saturation Current (A)	S.R.F (MHz)
		Typ.	Max.	Typ.	Typ.	Typ.
APDS1608C-152MLC	1.5	0.027	0.045	0.93	0.91	125
APDS1608C-222MLC	2.2	0.03	0.05	0.92	0.9	120
APDS1608C-332MLC	3.3	0.033	0.055	0.75	0.7	120
APDS1608C-472MLC	4.7	0.036	0.06	0.58	0.55	105
APDS1608C-682MLC	6.8	0.039	0.065	0.58	0.5	50
APDS1608C-822MLC	8.2	0.042	0.07	0.47	0.45	42
APDS1608C-103MLC	10	0.045	0.075	0.37	0.35	38
APDS1608C-153MLC	15	0.054	0.09	0.31	0.3	33
APDS1608C-223MLC	22	0.066	0.11	0.3	0.28	25
APDS1608C-333MLC	33	0.114	0.19	0.24	0.22	20
APDS1608C-473MLC	47	0.138	0.23	0.24	0.2	20
APDS1608C-683MLC	68	0.174	0.29	0.17	0.15	15
APDS1608C-104MLC	100	0.288	0.48	0.13	0.11	10
APDS1608C-154MLC	150	0.354	0.59	0.1	0.09	9
APDS1608C-224MLC	220	0.462	0.77	0.1	0.09	6
APDS1608C-334MLC	330	0.84	1.4	0.07	0.06	5
APDS1608C-474MLC	470	1.48	1.8	0.06	0.05	4
APDS1608C-564MLC	560	1.6	1.8	0.058	0.05	3
APDS1608C-684MLC	680	1.98	2.2	0.055	0.05	3
APDS1608C-105MLC	1000	2.52	3.4	0.045	0.04	2
APDS1608C-155MLC	1500	3.12	4.2	0.035	0.032	2
APDS1608C-755MLC	7500	5.1	8.5	0.028	0.025	2
APDS1608C-275MLC	2700	12.7	13.5	0.028	0.025	1.5
APDS1608C-335MLC	3300	9.8	11	0.024	0.022	1
APDS1608C-475MLC	4700	14.5	15.9	0.021	0.02	1
APDS1608C-565MLC	5600	18.5	23	0.02	0.018	1
APDS1608C-685MLC	6800	20	25	0.019	0.015	1

ELECTRICAL CHARACTERISTICS 特性规格表

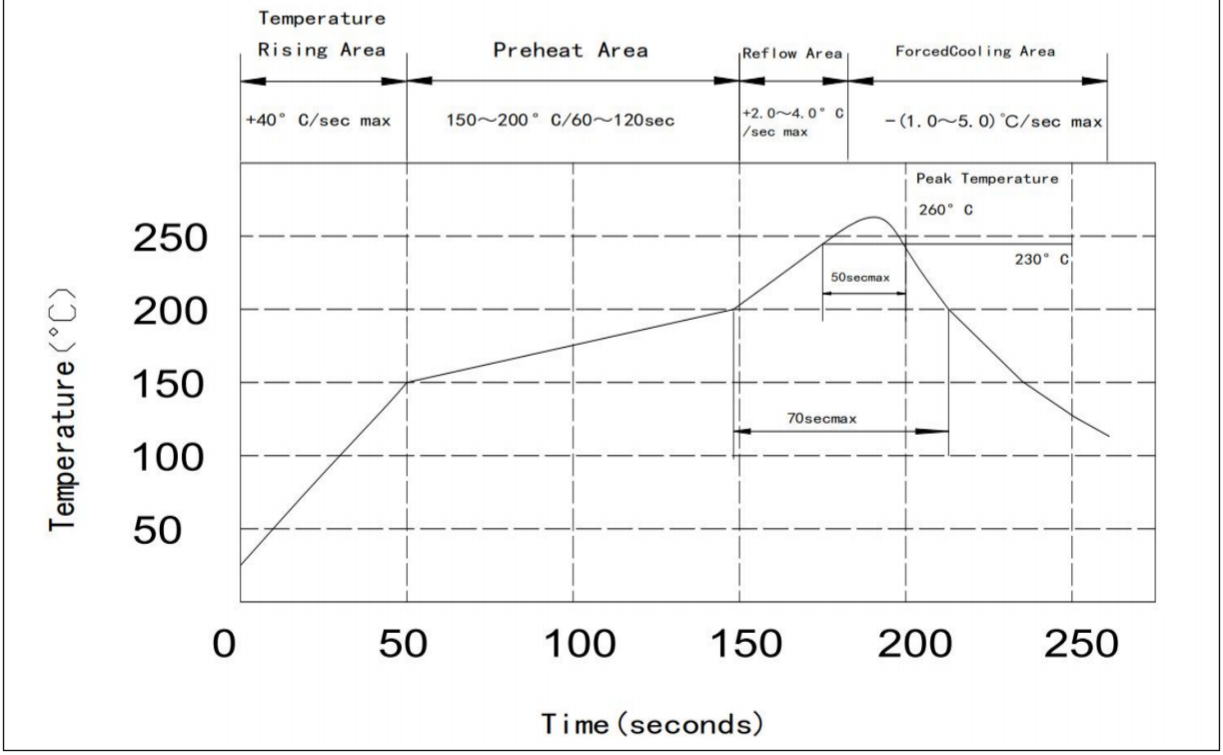
Part Number	Inductance @100KHz/0.1V (μH ±20%)	DC resistance (Ω)		Temperature Rise Current (A)	Saturation Current (A)	S.R.F (MHz)
		Typ.	Max.	Typ.	Typ.	Typ.
APDS1608C-106MLC	10000	29	32.8	0.017	0.014	0.8
APDS1608C-156MLC	15000	45	60	0.01	0.01	0.7
APDS1608C-206MLC	20000	53.5	70	0.01	0.007	0.7
APDS1608C-256MLC	25000	69.5	85	0.005	0.007	0.3
APDS1608C-306MLC	30000	83	105	0.005	0.007	0.3

- All test DCR is refered to 25℃±5℃ ambient.
- Irms:DC current (A)that will cause an approximate ΔT of 40℃(Typical) .
- Isat:DC current (A) that will cause Lo to drop approximately 10%(maxical) .
- Operatomg temperature range -40℃ to +125℃.
- Inductance tolerance ±20%.100KHz and 0.1Vrms.
- The part temperature(ambient+temp rise)should not exceed 125℃ under worse case operating conditions.
- Circuit design,component placement,PWB trace size and thickness,airflow and other cooling provision all affect .
- the part temperature.Part temperature should be verified in the end application.
- The rated current as listed is either the saturation current or the heating current depending on whith value is lower.

Recommended Soldering Technologies 回流焊建议

Reflowing Profile

Peak Temp:260℃ max.
Max time above 230℃ :50sec max.
Max time above 200℃ :70secmax



Safety Reminders 注意事项

SAFETY REMINDERS

- The storage period is within 12 months. Be sure to follow the storage conditions (temperature: 15 to 35℃, humidity: 75% RH or less).If the storage period elapses, the soldering of the terminal electrodes may deteriorate.
- Do not use or store in locations where there are conditions such as gas corrosion (salt, acid, alkali, etc.).
- Soldering corrections after mounting should be within the range of the conditions determined in the specifications. If overheated, a short circuit, performance deterioration, or lifespan shortening may occur.
- When embedding a printed circuit board where a chip is mounted to a set, be sure that residual stress is not given to the chip due to the overall distortion of the printed circuit board and partial distortion such as at screw tightening portions.
- Self heating (temperature increase) occurs when the power is turned ON, so the tolerance should be sufficient for the set thermal design.
- This product is not designed for production processes involving ultrasonic welding, as high-frequency vibration may cause application issues such as product detachment and breakage.
- Carefully layout the coil for the circuit board design of the non-magnetic shield type. A malfunction may occur due to magnetic interference.
- Use a wrist band to discharge static electricity in your body through the grounding wire.
- Do not expose the products to magnets or magnetic fields.
- Do not use for a purpose outside of the contents regulated in the delivery specifications.
- The products listed on this catalog are intended for use in general electronic equipment, under a normal operation and use condition.

The Company shall not guarantee the suitability, performance, or quality for the following applications that require a high level of safety and reliability, or where equipment failure, malfunction, or abnormal operation may cause damage to human life, physical well-being, or property, and may have significant social impacts (hereinafter referred to as "specific applications").If you intend to use this product in the application scenarios listed below, or if you have special requirements exceeding the scope or conditions specified in each product catalog, please contact us.

(1) Aerospace/aviation equipment
(2) Transportation equipment (cars, electric trains, ships, etc.)
(3) Medical equipment
(4) Power-generation control equipment
(5) Atomic energy-related equipment
(6) Seabed equipment
(7) Transportation control equipment
(8) Public information-processing equipment
(9) Military equipment
(10) Electric heating apparatus, burning equipment
(11) Disaster prevention/crime prevention equipment
(12) Safety equipment
(13) Other applications that are not considered general-purpose applications

When designing your equipment even for general-purpose applications, you are kindly requested to take into consideration securing protection circuit/device or providing backup circuits in your equipment.